

# SECOND QUARTER 2006 OUARTERLY GROUNDWATER MONITORING REPORT

Sampled on April 14, 2006 Job # SP-23 LOP # 12660

**BO&T** Company Office (BO&T Old Office)

211 Railroad Avenue Blue Lake, California 95525

June 5, 2006

This *Quarterly Groundwater Monitoring Report* was prepared by SounPacific Environmental Services (SounPacific) for David and Christina Fisch, and includes data from previous studies conducted by Clearwater Group, Inc. (CGI) and SounPacific, and information gathered from a review of relevant files at the Humboldt County Department of Health and Human Services: Division of Environmental Health (HCDEH). BO&T Old Office (the Site) is located at 211 Railroad Avenue, Blue Lake, California (Figure 1).

# **SITE DESCRIPTION**

The Site is surfaced around the current structure with concrete and vegetation. Site improvements include a single story building. The main structure is located in the southern portion of the property with the entrance to the building facing south towards Railroad Avenue. A storage building is located adjacent to the eastern property line immediately north of the primary building (Figure 2). The Site is serviced by public utilities. Surface water is controlled by storm drains.

# SITE TOPOGRAPHY AND LAND USE

SounPacific understands that the property is owned by David and Christina Fisch of Valley Springs, California. The main structure is currently used as an office for Fisch Environmental. The surrounding land use in the immediate vicinity is residential with an interspersion of commercial properties. Residential properties lie to the north, east, south, and west of the Site. The Site is located approximately 90 feet above mean sea level (amsl). The Mad River is located approximately one half mile to the south and Powers Creek is located approximately one quarter of a mile to the east of the Site. The City of Blue Lake is situated in the Mad River flood plain. Site topography slopes gently toward the southwest (Figure 1).

## **ENVIRONMENTAL SITE HISTORY**

Previous studies by CGI and SounPacific indicated the following historical information:

#### 1998 UST Removal (CGI)

Beacom Construction of Fortuna, California (Beacom), performed UST decommissioning and removal work on March 6, 1998. Upon completion of tank removal activities, soil and groundwater samples (SW-1 through SW-4) were collected by CGI from the excavation sidewalls at depths between 7 and 8 feet below ground surface (bgs) (Figure 3). Soil samples (PI-1 and PI-2) were also collected from beneath each end of the pump dispenser island at a depth of 3 feet below ground surface (bgs) (Figure 3). Soil samples (SW-3 and SW-4) collected from the eastern sidewall of the excavation were impacted with the highest concentrations of total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, total xylenes, ethylbenzene (BTXE), methyl tertiary butyl ether (MTBE), TPH as diesel (TPHd), and TPH as motor oil (TPHmo) (Table 1). The remaining samples reported less than 25 parts per million (ppm) of these constituents. A groundwater sample (GW-1) was also collected from water pooled in the bottom of the excavation (Figure 3). This groundwater sample reported in excess of 40,000 parts per billion (ppb) of the above constituents and approximately 100 ppb lead (Table 2).

#### **2000** Subsurface Investigation (SounPacific)

Correspondence from the HCDEH dated January 14, 1999 requested submittal of a Work Plan to determine the extent of contamination beneath the Site, and completion of a sensitive receptor survey within a 1,000-foot radius of the Site. A Work Plan was subsequently prepared and submitted by CGI in July 1999; however, CGI ceased being the consultant for the Site prior Work Plan implementation. SounPacific staff performed a subsurface investigation at the BO&T Old Office on October 24 and 25, 2000. The subsurface investigation was performed in accordance with the approved CGI Work Plan, submitted July 9, 1999. Ten (10) soil borings (B-1 through B-10) were drilled and soil samples were collected at five foot intervals beginning at five feet bgs, with the exception of boring B-8, which had an additional sample collected at eight feet bgs (Figure 3). Soil analytical results indicated that the sorbed phase contamination was restricted to boring B-5, which was located just above the former UST pit (Table 1). Groundwater samples were also collected from the boreholes. Groundwater was impacted throughout the Site according to analytical results (Table 2). The majority of the groundwater impact was reported adjacent to the former UST locations and dispenser areas. All borings reported lead in excess of 100 ppb in the groundwater. Further investigation was deemed necessary in order to define the extent of soil and groundwater impact.

### 2000 Sensitive Receptor Survey (SounPacific)

In October 2000, SounPacific staff along with Public Works personnel from the City of Blue Lake conducted a door-to-door well survey. Three domestic wells were discovered within a 1,000-foot radius of the Site, and their locations were documented in SounPacific's *Report of Findings*, dated December 20, 2000. One domestic well (DW-1) located across E Street, to the west of the Site, was sampled during the third quarter 2003 (Figure 2). No analytes were reported at or above detection limits for any constituent analyzed from this well sample (Table 3).

# **2002** Subsurface Investigation (SounPacific)

In a letter dated March 1, 2001, the HCDEH requested submittal of a Work Plan to define the extent of the impact, install monitoring wells, and sample wells identified by the sensitive

receptor survey. During May 2002, SounPacific staff performed a subsurface investigation at the BO&T Old Office to further determine the horizontal and vertical extent of the soil and groundwater contamination. The investigation consisted of drilling nine soil borings (B-11 through B-16 and MW-1 through MW-3) (Figure 3). Soil samples were collected from six (6) soil borings (B-11 through B-16) at four foot intervals. The soils from boreholes MW-1 through MW-3 were logged, and then the borings were converted to monitoring wells (MW-1 through MW-3). Boring B-12 was the only boring that reported TPHmo in excess of 100 ppm (Table 1). Groundwater contamination was detected to the north, in boreholes B-15 and B-16, and to the west, in boreholes B-11 and B-12. The most significant groundwater contamination in the gasoline, diesel, and motor oil ranges was from borehole B-12 (Table 2). The analytical results from this investigation indicated that delineation of soil and/or groundwater was still necessary to the east, west and south of the Site.

#### **2005** Subsurface Investigation (SounPacific)

During January 11 & 12, 2005, SounPacific performed a subsurface investigation at the BO&T Old Office to further delineate the groundwater contamination to the east, west, and south of the Site, and determine the vertical extent of the MTBE plume using depth discrete sampling. The soil delineation consisted of drilling two onsite soil borings (B-19 and B-20) and two offsite soil borings (B-17 and B-18) (Figure 3). The only significant soil analytical result reported from this investigation was from boring B-20, where an elevated concentration of TPHg was detected at twelve feet bgs (Table 1). Soil analytical results including previous investigations have indicated that the soil contamination is delineated onsite, to the south of the Site, to the east of the Site, and to the north of the Site. Lateral and vertical soil delineation is still necessary to the west of the Site. Groundwater samples were collected from borings B-17 through B-25 to determine the lateral and vertical extent of the groundwater plume. The groundwater plume appears to be flowing in a southwesterly direction according to analytical results from this investigation (Table 2); however, groundwater levels were only observed at approximately 3-4 feet bgs during this investigation and groundwater samples collected from the borehole locations were collected at the soil/groundwater interface. Steeply dipping groundwater plumes, if present, could not be properly characterized vertically until depth discrete groundwater samples were collected. Further investigation would be necessary for adequate lateral and vertical delineation of the contamination.

#### **2006** Subsurface Investigation (SounPacific)

During February 16, 17, and March 10, 2006, SounPacific staff performed a subsurface investigation at the BO&T Old Office to further delineate the groundwater contamination to the east, west, and south of the Site.

Soil samples collected during the recent drilling program did not reveal the presence of any significant impact at the drilling locations (Table 1). One (1) soil sample (MW-6 @ 8') contained 0.0144 ppm of MTBE. The remaining soil samples were ND for all analytes (Table 1).

Groundwater samples from the initial three monitoring wells (MW-1, MW-2, and MW-3) were all impacted, primarily by MTBE; therefore, the lateral extent of the groundwater contamination, as determined from initial monitoring wells, was undetermined. In addition, the vertical distribution of any contamination of the groundwater, particularly by MTBE was undefined. Grab groundwater sample MW-5 @ 8' contained 292 ppb TPHg and 500 PPB MTBE. Grab groundwater sample MW-7 @ 20' contained 243 ppb TPHg and 360 PPB MTBE. Samples MW-6 @ 8' and MW-7 @ 8' contained less than 5 ppb MTBE (Table 2).

Samples collected from the new monitoring wells after development and purging contained TPHg and MTBE. MW-5 and MW-7 contained both TPHg and MTBE at 82.7/122 ppb and 51.8/79.7 ppb, respectively. MW-6 contained 37.5 ppb MTBE, while MW-8 contained a trace of MTBE at 2.5 ppb and MW-9 was ND for all analytes. Lead was detected in all five water samples at typical background concentrations ranging from 21 to 51 ppb (Table 3). Typical analyses for TPHg will include any MTBE present. It is noted that where MTBE is present at a concentration less than 50 ppb, the TPHg is ND. Where MTBE is detected at a concentration greater than 50 ppb, both TPHg and MTBE are detected at approximately the same concentration. This typically indicates that the TPHg consists predominantly of MTBE.

# **RESULTS OF QUARTERLY SAMPLING**

A quarterly groundwater monitoring program was implemented at the Site in July 2002. Quarterly water level measurements are recorded to continue to track groundwater flow direction and gradient. Quarterly groundwater samples are collected to monitor hydrocarbon contamination in the groundwater beneath the Site. The current monitoring event was conducted on April 14, 2006, during which the monitoring wells at the Site were gauged and sampled.

#### FIELD DATA

Wells gauged: MW-1, 2, 3, 5, 6, 7, 8, and 9. Well MW-4 was never installed.

**Groundwater level:** Ranged from 1.19 to 3.45 feet btc (Table 4)

**Groundwater elevation:** Ranged from 85.66 to 88.60 feet amsl (Table 4)

**Floating product:** Sheen detected in MW-3, 5, and 9

**GW flow direction:** W (Figure 4)

**GW gradient:** 0.03 feet per foot (Figure 4)

On April 14, 2006, the depth to groundwater in the Site's four onsite and four offsite monitoring wells ranged from 1.19 feet below top of casing (btc) in well MW-9 to 3.45 feet btc in MW-3. When corrected to mean sea level, water level elevations ranged from 85.66 feet amsl in MW-8 to 88.60 feet amsl in MW-6. Groundwater levels for the April 14, 2006 monitoring event, along with historical level and elevations are included in Table 4. Groundwater flow was towards the west at a gradient of 0.03 feet per foot (ft/ft). The groundwater flow direction and gradient are graphically depicted in Figure 4. Prior to sampling, all wells were purged; the groundwater field parameters for each well are presented on the following page.

#### MONITORING WELL MW-1 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
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9:49 am	0	6.04	57.75	0.377
9:55	1.9	6.08	58.00	0.390
10:01	3.8	6.08	58.09	0.390
10:07	5.7	6.08	58.10	0.400

#### **MONITORING WELL MW-2 GROUNDWATER FIELD PARAMETERS**

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
10:16 am	0	6.09	55.59	0.154
10:23	1.9	6.12	54.66	0.153
10:27	3.8	6.17	54.47	0.164
10:33	5.7	6.20	54.46	0.170

### **MONITORING WELL MW-3 GROUNDWATER FIELD PARAMETERS**

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
10:43 am	0	6.25	56.19	0.532
10:49	1.8	6.26	56.22	0.541
10:53	3.6	6.24	56.54	0.486
10:45	5.4	6.23	56.50	0.486

### MONITORING WELL MW-5 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
11:11 am	0	6.66	53.66	0.403
11:16	1.6	6.67	53.22	0.292
11:23	3.2	6.49	53.30	0.247
11:27	4.8	6.47	53.24	0.221

### MONITORING WELL MW-6 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
11:55 am	0	6.66	56.46	0.366
12:04 pm	1.6	6.50	55.46	0.247
12:10	3.2	6.54	55.71	0.308
12:14	4.8	6.65	56.18	0.371

## MONITORING WELL MW-7 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
12:24 pm	0	6.12	57.65	0.152
12:31	1.4	6.10	56.87	0.175
12:35	2.8	6.11	56.86	0.167
12:40	4.2	6.09	56.89	0.162

#### MONITORING WELL MW-8 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
12:49 pm	0	6.02	56.16	0.118
12:57	1.5	5.95	55.65	0.113
1:02	3.0	5.60	55.63	0.140
1:08	4.5	5.68	55.53	0.113

#### **MONITORING WELL MW-9 GROUNDWATER FIELD PARAMETERS**

Time	Total Vol. Removed/ gal	pН	Temp./ F	Cond./ ms(cm) <sup>-1</sup>
1:18 pm	0	5.96	56.77	0.127
1:23	1.8	5.93	56.27	0.144
1:27	3.6	6.27	56.39	0.165
1:30	5.4	6.28	56.90	0.138

#### **ANALYTICAL RESULTS**

**Sampling locations:** MW-1, 2, 3, 5, 6, 7, 8, and 9, (Well MW-4 was never installed)

**Analyses performed:** TPHg, BTXE, MTBE, DIPE, TAME, ETBE, TBA, and lead

**Laboratories Used:** Basic Labs, Redding, California

The analytical results for the current monitoring event are presented below and graphically depicted in Figure 5. The laboratory report is included as Appendix A. The historical analytical results for all monitoring wells, since the implementation of groundwater monitoring are included as Table 3. Standard operating procedures and field notes are attached as Appendix B and Appendix C.

	<u>MW-1</u>	<u>MW-2</u>	<u>MW-3</u>	<u>MW-5</u>	<u>MW-6</u>	<u>MW-7</u>	<u>MW-8</u>	<u>MW-9</u>
	ppb	ppb						
TPHg:	113	101	10,800	163	ND < 50.0	101	ND < 50.0	ND < 50.0
Benzene:	ND < 0.5	10.1	ND < 50.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
Toluene:	ND < 0.5	ND < 0.5	ND < 50.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
<b>Total Xylenes:</b>	ND < 1.0	ND < 1.0	ND < 100	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0 ND < 1.0	
<b>Ethylbenzene:</b>	ND < 0.5	2.0	ND < 50.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
MTBE:	125	85.6	10,700	202	28.1	112	ND < 1.0	ND < 1.0
DIPE:	ND < 0.5	ND < 0.5	ND < 50.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
TAME:	ND < 0.5	0.9	70.0	1.6	ND < 0.5	0.6	ND < 0.5	ND < 0.5
ETBE:	ND < 0.5	ND < 0.5	ND < 50.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
TBA:	ND < 50.0	ND < 50.0	ND < 5,000	ND < 50.0	ND < 50.0	ND < 50.0	ND < 50.0	ND < 50.0
lead:	ND < 15	64	22	ND < 15	ND < 15	126	67	31

ND = non-detect

# **COMMENTS AND RECOMMENDATIONS**

The monitoring event for the four onsite monitoring wells (MW-1, 2, 3, and 5) and the four

offsite monitoring wells (MW-6, 7, 8, and 9) was conducted on April 14, 2006. A summary of the results are presented below.

- The depth to groundwater in the four onsite and four offsite wells ranged from 1.19 feet bgs (MW-9) to 3.45 feet bgs (MW-3). Groundwater flow was towards the west at a gradient of 0.03 ft/ft.
- Groundwater samples from the Site's eight monitoring wells were collected and analyzed for TPHg, BTXE, five fuel oxygenates, and total lead. Laboratory results reported TPHg in five wells at concentrations ranging between 101 ppb (MW-2 and MW-7) and 10,800 ppb (MW-3). The BTXE components were reported in well MW-2. Benzene was reported at a concentration of 10.1 ppb and ethylbenzene was reported at a concentration of 2.0 ppb (MW-2). MTBE was reported in six wells at concentrations that ranged between 28.1 ppb (MW-6) and 10,700 ppb (MW-3). Tert-amyl methyl ether (TAME) was reported in four wells at concentrations that ranged between 0.6 ppb (MW-7) and 70.0 ppb (MW-3). Lead was reported in five wells at concentrations that ranged between 22 ppb (MW-3) and 126 ppb (MW-7). No other analytes were detected in any wells at or above the laboratory detection limits.

Based upon the monitoring and sampling results the following observations and conclusions have been made:

- TPHg has been detected at varying concentrations in well MW-1 in eleven of the seventeen sampling events conducted since the inception of the monitoring. Laboratory results have detected TPHg in wells MW-2 and MW-3 in all but two sampling events since the inception of the monitoring program, with varying concentrations. See Figures 6-8.
- BTXE compounds have never been detected in well MW-1. Benzene has been consistently reported in well MW-2. Total xylenes and ethylbenzene were reported in

- MW-2 inconsistently. Toluene, total xylenes, and ethylbenzene were detected in MW-3 during the second quarter 2004 and 2005 at significant concentrations.
- MTBE has been reported in every well during every sampling event to date; the highest concentrations reported in well MW-3. MTBE was reported at the highest concentration in MW-1 during the third quarter 2005. Concentrations have fluctuated in wells MW-1 and MW-2, and MW-3, concentrations have generally decreased. The TPHg detected at the Site appears to consist almost exclusively of MTBE. See Figures 6-8.
- Traces of TAME have been reported at various times in monitoring well MW-1. In well
  MW-2, TAME has been reported in ten out of sixteen monitoring events with a general
  decrease in concentration over time. TAME has been reported at the highest
  concentration in well MW-3, and the concentrations have been fluctuating with time.
- Ethyl tert-butyl ether (ETBE) was reported twice in well MW-3 since the inception of the monitoring during the first quarter of 2003 and 2005.
- Tert-butyl alcohol (TBA) was reported once in well MW-1 during the third quarter 2003.
   TBA has not been reported in well MW-2 thus far. TBA was reported twice in well MW-3 since the inception of the monitoring during the first quarter of 2003 and 2005.
- As water levels rise, the concentration of MTBE decreases and vice versa (Chart 1 and Figures 6 and 7). This occurs in all wells except MW-3 which is very near to the former USTs and the release site.
- The extent of the MTBE appears to be undefined to the south of MW-5, to the west and north of MW-7, to the north of ME-1 and MW-6, and to the east of MW-2, MW-5, and MW-6. MTBE is also vertically undefined in any well at any location.
- Following the installation of the new monitoring wells (MW-5 through MW-9) collected

groundwater samples were analyzed for total lead. Lead concentrations appear to be within background levels, with the exception of MW-7 (126 ppb), MW-2 (64 ppb), and MW-8 (67 ppb).

Based on the results of this monitoring event combined with historical results, the following future activities are proposed:

- Quarterly groundwater monitoring will be continued. Quarterly groundwater level measurements will be collected from the monitoring wells to determine groundwater flow direction and gradient. Groundwater samples will be analyzed for TPHg, BTXE, and fuel oxygenates. During the next monitoring event, collected groundwater will also be analyzed for total lead, but unless levels of concern are identified during that monitoring event, analysis for lead will be discontinued in further sampling events.
- SounPacific recently performed a subsurface investigation, which included the installation of five (5) additional monitoring wells and incorporated these wells into the ongoing monitoring program. The wells successfully defined the extent of the MTBE impact to the southwest of the release area. The Site should be monitored, and if the past results are confirmed, additional investigation should be considered to define the extent of the impact in all other directions away from the release area.
- Vertical definition of MTBE should be considered for this Site.
- A Corrective Action Plan (CAP) for the Site has been submitted to HCEHD for review.
   The CAP proposed the use of chemical oxidization as a remedial option for site. If approved by HCEHD, a bench test and pilot test would be conducted to evaluate this remedial option for the Site. This work would include the vertical delineation of MTBE.

# CERTIFICATION

This report was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely on field observations and analyses performed by a state-certified laboratory. SounPacific is not responsible for laboratory errors.

SounPacific promises to perform all its work in a manner that is used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions and other factors beyond what SounPacific could reasonably determine.

SounPacific

Prepared by:

Greg Sounkein, REA # 07994

Project Manager

Reviewed by:

Michael Sellens, RG # 4714, REA # 0789

Principal Geologist



No. 07994

Expires: 06-30

## **ATTACHMENTS**

#### **TABLES & CHART**

Table 1: Soil Analytical Results

Table 2: Groundwater Analytical Results from Boreholes

Table 3: Groundwater Analytical Results from Monitoring Wells

Table 4: Water Levels

Chart 1: Hydrograph

#### **FIGURES**

Figure 1: Aerial/Topo Map

Figure 2: Site Plan

Figure 3: Sample Location Map

Figure 4: Groundwater Gradient Map April 2006

Figure 5: Groundwater Analytical Results

Figure 6: MW-1 Hydrocarbon Concentrations vs. Time

Figure 7: MW-2 Hydrocarbon Concentrations vs. Time

Figure 8: MW-3 Hydrocarbon Concentrations vs. Time

#### **APPENDICES**

Appendix A: Laboratory Report and Chain-of-Custody Form

Appendix B: Standard Operating Procedures

Appendix C: Field Notes

# **Tables & Chart**

#### Table 1 Soil Analytical Results

Big Oil and Tire Old Office 211 Railroad Avenue Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	TPHd (ppm)	TPHmo (ppm)	Total Pb (ppm)
SW-1	SW-1	3/6/1998	24	0.53	ND < 0.16	0.085	0.33	1.4	1.1	ND < 10	9.3
SW-2	SW-2	3/6/1998	9.3	0.067	0.26	0.92	0.17	ND < 0.10	24	ND < 10	9
SW-3	SW-3	3/6/1998	110	1.8	1.3	5.71	2.2	2.9	6.6	60	43
SW-4	SW-4	3/6/1998	120	2.6	1.1	11.2	2.1	5.1	7.9	52	7
PI-1	PI-1	3/6/1998	2.3	0.027	0.18	0.192	0.037	0.056	ND < 1.0	ND < 10	7.7
PI-2	PI-2	3/6/1998	1.7	0.097	0.12	0.102	0.02	0.15	ND < 1.0	11	10
B-1 @5'	B-1	10/24/2000	ND < 1.0	0.0056	ND < 0.010	ND < 0.005	ND < 0.005	0.062	ND < 1.0	ND < 10	9.3
B-1 @10'	B-1	10/24/2000	ND < 1.0	0.0057	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	8.8
B-1 @15'	B-1	10/24/2000	ND < 1.0	0.0069	ND < 0.005	ND < 0.005	ND < 0.005	0.16	ND < 1.0	ND < 10	9.7
B-2 @5'	B-2	10/24/2000	ND < 1.0	0.0059	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	8.1
B-2 @10'	B-2	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	0.11	ND < 1.0	ND < 10	10
B-2 @15'	B-2	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	9.3
B-3 @5'	B-3	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.030	ND < 0.005	ND < 0.005	0.055	ND < 1.0	ND < 10	8.4
B-3 @10'	B-3	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	7.1
B-4 @5'	B-4	10/24/2000	8.2	ND < 0.005	ND < 0.020	ND < 0.005	ND < 0.005	0.75	ND < 1.0	ND < 10	8.9
B-4 @10'	B-4	10/24/2000	1.1	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	0.83	ND < 1.0	ND < 10	8.7
B-4 @15'	B-4	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	6.7
B-5 @5'	B-5	10/24/2000	120	0.076	ND < 0.50	1.74	0.42	0.58	240	39	11
B-5 @10'	B-5	10/24/2000	3.3	5.0	0.41	0.584	0.64	1.6	ND < 1.0	19	12
B-6 @5'	B-6	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.020	ND < 0.005	ND < 0.005	0.19	ND < 1.0	ND < 10	8.9
B-6 @10'	B-6	10/24/2000	1.8	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	0.85	ND < 1.0	ND < 10	9.4
B-7 @5'	B-7	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	8.1
B-7 @10'	B-7	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	6.9
B-8 @5'	B-8	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	16
B-8 @8'	B-8	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	13
B-9 @5'	B-9	10/24/2000	ND < 1.0	0.010	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	9.4
B-9 @10'	B-9	10/24/2000	ND < 1.0	0.0076	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	9.0
B-10 @5'	B-10	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.020	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	8.9
B-10 @10'	B-10	10/24/2000	ND < 1.0	0.0056	ND < 0.010	ND < 0.005	ND < 0.005	1.2	ND < 1.0	ND < 10	7.8

# Table 1 (cont.) Soil Analytical Results

Big Oil and Tire Old Office 211 Railroad Avenue Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	TPHd (ppm)	TPHmo (ppm)	Total Pb (ppm)
SB-11 @ 4'	B-11	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	39.0	
SB-11 @ 8'	B-11	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.0066	ND < 10	ND < 10	
SB-11 @ 12'	B-11	5/15/2002	0.93	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.0383	ND < 10	ND < 10	
SB-12 @ 4'	B-12	5/15/2002	0.195	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.071	ND < 10	ND < 10	
SB-12 @ 8'	B-12	5/15/2002	1.58	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.897	ND < 10	33.7	
SB-12 @ 12'	B-12	5/15/2002	2.67	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	1.02	17.6	197	
SB-13 @ 4'	B-13	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	
SB-13 @ 8'	B-13	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	
SB-13 @ 12'	B-13	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	
SB-14 @ 4'	B-14	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	
SB-14 @ 8'	B-14	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	
SB-14 @ 12'	B-14	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	
SB-15 @ 4'	B-15	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	

 $ND < 0.005 \quad ND < 0.015$ 

 $ND < 0.005 \quad ND < 0.015$ 

 $ND < 0.005 \quad ND < 0.015$ 

 $ND < 0.005 \quad ND < 0.005 \quad ND < 0.015$ 

ND < 0.005

0.005

ND < 0.005

0.027

0.313

 $ND < 0.060 \quad ND < 0.005 \quad ND < 0.005 \quad ND < 0.015$ 

 $ND < 0.060 \quad ND < 0.005$ 

 $ND < 0.060 \quad ND < 0.005$ 

ND < 0.005

0.174

0.794

ND < 10

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ND < 10

SB-15 @ 8'

SB-15 @ 12'

SB-16 @ 4'

SB-16 @ 8'

SB-16 @ 12'

B-15

B-15

B-16

B-16

B-16

5/15/2002

5/15/2002

5/15/2002

5/15/2002

5/15/2002

# Table 1 (cont.)

Soil Analytical Results
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHmo (ppm)
SB-17 @ 4.5'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 8'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 12'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 14'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 16'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 19'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 4'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 8'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 10'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.0085	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 12'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.0426	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 16'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 17'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 20'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 4'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 8'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.032	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 10'	B-19	1/12/2005	0.337	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.476	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 12'	B-19	1/12/2005	0.475	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.864	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 18'	B-19	1/12/2005	0.0901	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.118	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 20'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 22'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 24'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 3'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 8'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	14	12
SB-20 @ 12'	B-20	1/12/2005	117	ND < 0.5	ND < 0.5	ND < 1.5	0.529	ND < 0.5	ND < 0.005	ND < 500	ND < 0.5	ND < 5.00	ND < 10	10
SB-20 @ 15'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.0595	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 20'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 21'	B-20	1/12/2005	0.230	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 24'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10

# Table 1 (cont.)

Soil Analytical Results
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHmo (ppm)
MW-5 @ 4'	MW-5	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-6 @ 4'	MW-6	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-6 @ 6'	MW-6	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-6 @ 8'	MW-6	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	0.0144	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-7 @ 4'	MW-7	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-7 @ 7'	MW-7	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-7 @ 8'	MW-7	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-8 @ 4'	MW-8	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-8 @ 6'	MW-8	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-8 @ 8'	MW-8	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-9 @ 4'	MW-9	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-9 @ 6'	MW-9	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
MW-9 @ 8'	MW-9	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
B-26 @ 4'	B-26	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
B-26 @ 6'	B-26	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		
B-26 @ 8'	B-26	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050		

TPHg: Total petroleum hydrocarbons as gasoline MTBE: Methyl tertiary butyl ether DIPE: DiIsopropyl ether

TAME: Tertiary amyl methyl ether ETBE: Ethyl tertiary butyl ether TBA: Tertiary butanol

TPHd: Total petroleum hydrocarbons as diesel TPHmo: Total petroleum hydrocarbons as motor oil

Pb: lead

ND: Not detected at or below the method detection limit as shown.

ppm: parts per million =  $\mu g/g = mg/kg = 1000 \ \mu g/kg$ 

# Table 2 Groundwater Analytical Results from Boreholes Big Oil and Tire Old Office 211 Railroad Avenue Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)	Methanol (ppb)	Ethanol (ppb)	Total Pb (ppb)
GW-1	GW-1	3/6/1998	180,000	19,000	16,000	15,700	3,400	65,000					230,000	48,000			130
B-1	B-1	10/25/2000	110	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	120					ND < 50	ND < 170			1,800
B-3	B-3	10/25/2000	390	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	630					ND < 50	ND < 170			130
B-5	B-5	10/25/2000	35,000	4,100	13	408.5	460	12,000					21,000	5,100			770
B-6	B-6	10/25/2000	13,000	ND < 0.50	ND < 1.0	ND < 0.50	ND < 0.50	13,000					ND < 50	ND < 170			410
B-7	B-7	10/25/2000	57	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	47					ND < 50	ND < 170			130
B-8	B-8	10/25/2000	ND < 50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	15					ND < 50	ND < 170			2,900
B-9	B-9	10/25/2000	180	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	38					ND < 50	ND < 170			170
B-10	B-10	10/25/2000	12,000	ND < 0.50	ND < 2.0	ND < 0.50	ND < 0.50	20,000					ND < 50	ND < 170			110
GWSB-11 @ 12'	B-11	5/15/2002	3,710	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	2,840	ND < 0.5	11.8	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	
GWSB-12 @ 12'	B-12	5/15/2002	25,800	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	28,865	ND < 0.5	94.9	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	
GWSB-13 @ 12'	B-13	5/15/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	31.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	
GWSB-14 @ 16'	B-14	5/16/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	
GWSB-15 @ 12'	B-15	5/15/2002	245	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	127	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	
GWSB-16 @ 12'	B-16	5/15/2002	3,740	53.2	1.2	6.5	18.2	3,860	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	
SBGW-17	B-17	1/12/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	684	201			
SBGW-18	B-18	1/12/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	13.7	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50			
SBGW-19	B-19	1/12/2005	614	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	902	ND < 0.5	10.0	ND < 5.0	ND < 50	ND < 50	ND < 50			
SBGW-20	B-20	1/12/2005	2,400	107	5.8	44.5	181	1,490	ND < 5.0	ND < 50	ND < 50	ND < 500	9,440	3,620			
SBGW-21	B-21	1/12/2005	97.0	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	139	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	118			
SBGW-22	B-22	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50			
SBGW-23	B-23	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50			
SBGW-24	B-24	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	7.2	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50			
SBGW-25	B-25	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 77	ND < 77			

# Table 2 (cont.) Groundwater Analytical Results from Boreholes Big Oil and Tire Old Office 211 Railroad Avenue Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)	Methanol (ppb)	Ethanol (ppb)	Total Pb (ppb)
MW-5(GW) @ 8'	MW-5	2/16/2006	292	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	500	ND < 0.5	3.6	ND < 0.50	ND <50.0					
MW-6(GW) @ 8'	MW-6	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	2.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					
MW-6(GW) @ 30'	MW-6	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					
MW-7(GW) @ 8'	MW-7	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	3.2	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					
MW-7(GW) @ 20'	MW-7	2/15/2006	243	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	360	ND < 0.5	1.9	ND < 0.50	ND <50.0					
MW-8(GW) @ 8'	MW-8	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					
MW-8(GW) @ 20'	MW-8	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					
MW-8(GW) @ 30'	MW-8	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					
B-26(GW) @ 8'	B-26	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					
B-26(GW) @ 20'	B-26	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0					

notes:
TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tertiary butyl ether
DIPE: Dilsopropyl ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
TBA: Tertiary butanol

TPHd: Total petroleum hydrocarbons as diesel TPHmo: Total petroleum hydrocarbons as motor oil Pb: lead

ND: Not detected at or below the method detection limit as shown. ppb: parts per billion =  $\mu$ g/l = .001 mg/l = 0.001 ppm.

# Table 3 Groundwater Analytical Results from Monitoring Wells Big Oil and Tire Old Office 211 Railroad Avenue

Blue Lake, California 95525

Sample Location	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	Methanol (ppb)	Ethanol (ppb)	TPHd (ppb)	TPHmo (ppb)	Lead (ppb)
	5/19/2002	364	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	344	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 5,000	ND < 5,000	170		
	7/16/2002	144	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	234	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	ND < 5,000	ND < 5,000	235	ND < 50	
	10/152/02	99.3	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	225	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100			ND < 50	ND < 50	
	1/13/2002	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	130	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 12.5	ND < 50	ND < 500	
	4/11/2003	ND < 50	ND < 5.0	ND < 5.0	ND < 10	ND < 5.0	150	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 130	ND < 50	ND < 500	
	7/14/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	370	ND < 0.5	0.5	ND < 0.5	54	ND < 5.0	ND < 13	ND < 50	ND < 500	
	10/26/2003	ND < 50	ND < 5.0	ND < 5.0	ND < 10.0	ND < 5.0	190	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 200	ND < 50	ND < 500	
	1/17/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	89	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 20	ND < 50	ND < 500	
MW-1	4/22/2004	160	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	260	ND < 0.5	0.8	ND < 0.5	ND < 5.0			ND < 50	ND < 500	
	7/23/2004	ND < 500	ND < 5.0	ND < 5.0	ND < 15	ND < 5.0	370	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50			ND < 50	ND < 500	
	10/31/2004	66	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	100	ND < 0.5	0.5	ND < 0.5	ND < 5.0			ND < 50	ND < 500	
	1/21/2005	79.1	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	91.3	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50			ND < 50	ND < 50	
	4/29/2005	163	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	234									
	7/21/2005	366	ND < 1.2	ND < 1.2	ND < 2.5	ND < 1.2	408	ND < 1.2	ND < 1.2	ND < 1.2	ND < 125					
	10/27/2005	162	ND < 1.2	ND < 1.2	ND < 2.5	ND < 1.2	250	ND < 1.2	1.2	ND < 1.2	ND < 125					
	1/22/2006	63.1	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	92.6	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0					
	4/14/2006	113	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	125	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0					ND < 15
	5/19/2002	7,830	1,000	ND < 30	128	127	1,600	ND < 50	ND < 50	ND < 50	ND < 4,000	ND < 500,000	ND < 5,000	788	614	
	7/16/2002	4,980	383	11.1	33.7	57.4	10,700	ND < 10	102	ND < 10	ND < 2000	ND < 5,000	ND < 5,000	322	ND < 50	
	10/152/02	3,370	127	3.2	1.7	5.5	15,000	ND < 0.5	86.2	ND < 0.5	ND < 100			ND < 50	ND < 50	
	1/13/2002	120	12	ND < 0.5	ND < 1.0	1.0	170	ND < 0.5	1.6	ND < 0.5	ND < 5.0	ND < 5.0	ND < 12.5	ND < 50	ND < 500	
	4/11/2003	240	38	ND < 5.0	ND < 10	5.1	180	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 130	57	ND < 500	
	7/14/2003	220	5	ND < 5.0	ND < 10	ND < 5.0	1,100	ND < 5.0	9	ND < 5.0	ND < 50	ND < 5.0	ND < 130	ND < 50	ND < 500	
	10/26/2003	730	60	ND < 50	ND < 100	ND < 50	6,500	ND < 50	65	ND < 50	ND < 500	ND < 5.0	ND < 2,000	ND < 50	ND < 500	
	1/17/2004	ND < 500	15	ND < 5.0	ND < 10	ND < 5.0	150	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 200	70	ND < 500	
2007.0	4/22/2004	ND < 500	24	16	ND < 10	ND < 5.0	190	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50			ND < 50	ND < 500	
MW-2	7/23/2004	1,600	9,3	ND < 5.0	ND < 15	ND < 5.0	4,000	ND < 5.0	29	ND < 5.0	ND < 50			75	ND < 500	
	10/31/2004	550	11	ND < 5.0	ND < 15	ND < 5.0	660	ND < 5.0	5.6	ND < 5.0	ND < 50			67	ND < 500	
	1/21/2005	159	9.0	0.7	ND < 1.0	2.1	142	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50			ND < 50	ND < 50	
	4/29/2005	173	18.8	ND < 1.2	ND < 2.5	5.4	170									
	7/21/2005	1,410	8.9	ND < 5.0	ND < 10.0	ND < 5.0	1,650	ND < 5.0	16.0	ND < 5.0	ND < 500					
	10/27/2005	2,100	19.3	ND < 5.0	ND < 10.0	ND < 5.0	3,960	ND < 5.0	34.8	ND < 5.0	ND < 500					
	1/22/2006	73.0	4.4	ND < 0.5	ND < 1.0	ND < 0.5	92.5	ND < 0.5	0.8	ND < 0.5	ND < 50.0					
	4/14/2006	101	10.1	ND < 0.5	ND < 1.0	2.0	85.6	ND < 0.5	0.9	ND < 0.5	ND < 50.0					64
	5/19/2002	13,300	ND < 30	ND < 30	ND < 60	ND < 30	49,312	ND < 50	ND < 50	ND < 50	ND < 4,000	ND < 500,000	ND < 5,000	146	ND < 50	
	7/16/2002	12,400	ND < 6.0	ND < 6.0	ND < 12.0	ND < 6.0	36,700	ND < 10	109	ND < 10	ND < 2000	ND < 5,000	ND < 5,000	200	ND < 50	
	10/152/02	5,690	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	25,800	ND < 0.5	104	ND < 0.5	ND < 100			ND < 50	ND < 50	
	1/13/2002	1,800	ND < 0.5	ND < 0.5	ND < 0.9	ND < 0.5	11,000	р	71	6.2	1,000	ND < 5.0	ND < 12.5	ND < 50	ND < 500	
	4/11/2003	1,300	ND < 50	ND < 50	ND < 100	ND < 50	11,000	ND < 50	ND < 50	ND < 50	ND < 500	ND < 5.0	ND < 1,300	ND < 50	ND < 500	
	7/14/2003	2,000	ND < 50	ND < 50	ND < 100	ND < 50	19,000	ND < 50	71	ND < 50	ND < 500	ND < 5.0	ND < 1,300	ND < 50	ND < 500	
I	10/26/2003	ND < 50	ND < 50	ND < 50	ND < 100	ND < 50	20,000	ND < 50	120	ND < 50	ND < 500	ND < 5.0	ND < 2,000	56	ND < 500	
	1/17/2004	ND < 5,000	ND < 50	ND < 50	ND < 100	ND < 50	11,000	ND < 50	110	ND < 50	ND < 500	ND < 5.0	ND < 2,000	ND < 50	ND < 500	
MW-3	4/22/2004	10,000	ND < 50	100	ND < 100	ND < 50	14,000	ND < 50	130	ND < 50	ND < 500			ND < 50	ND < 500	
	7/23/2004	7,300	ND < 50	ND < 50	ND < 150	ND < 50	13,000	ND < 50	92	ND < 50	ND < 500			120	ND < 500	
I	10/31/2004	7,000	ND < 20	ND < 50	ND < 150	ND < 50	11,000	ND < 50	84	ND < 50	ND < 500			ND < 50	ND < 500	
I	1/21/2005	10,800	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	14,200	ND < 0.5	108	6.6	152			ND < 50	ND < 50	
I	4/29/2005	19,200	ND < 100	284	898	136	12,700									
I	7/21/2005	9,050	ND < 62.5	ND < 62.5	ND < 125	ND < 62.5	11,100	ND < 62.5	ND < 62.5	ND < 62.5	ND < 6,250					
I	10/27/2005	5,720	ND < 62.5	ND < 62.5	ND < 125	ND < 62.5	7,790	ND < 62.5	63	ND < 62.5	ND < 6,250					
I	1/22/2006	5,950	ND < 25.0	ND < 25.0	ND < 50.0	ND < 25.0	12,500	ND < 25.0	67	ND < 25.0	ND < 2,500					
DW	4/14/2006	10,800	ND < 50.0	ND < 50.0	ND < 100	ND < 50.0	10,700	ND < 50.0	70	ND < 50.0	ND < 5,000	NID 5.0	NID 12	ND 50	ND 500	22
DW-1	7/14/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 13	ND < 50	ND < 500	

# Table 3

## **Groundwater Analytical Results from Monitoring Wells**

Big Oil and Tire Old Office 211 Railroad Avenue Blue Lake, California 95525

Sample Location	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	Methanol (ppb)	Ethanol (ppb)	TPHd (ppb)	TPHmo (ppb)	Lead (ppb)
MW-5	3/10/2006	82.7	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	122	ND < 0.5	1.0	ND < 0.5	ND < 50					26
	4/14/2006	163	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	202	ND < 0.5	1.6	ND < 0.5	ND < 50.0					ND < 15
MW-6	3/10/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	37.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50					21
	4/14/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	28.1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0					ND < 15
MW-7	3/10/2006	51.8	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	79.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50					51
	4/14/2006	101	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	112	ND < 0.5	0.6	ND < 0.5	ND < 50.0					126
MW-8	3/10/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	2.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50					35
141 44 -0	4/14/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0					67
MW-9	3/10/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50					26
	4/14/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0					31

#### Notes:

TPHg: Total Petroleum Hydrocarbons as gasoline TBA: Tertiary butanol

MTBE: Methyl tertiary butyl ether TPHd: Total Petroleum Hydrocarbons as diesel DIPE: Diisopropyl Ether TPHmo: Total petroleum hydrocarbons as motor oil

TAME: Tertiary amyl methyl ether ND: Not detected. Sample was detected at or below the method detection limit as shown.

ETBE: Ethyl tertiary butyl ether ppb: parts per billion =  $\mu$ g/l = .001 mg/l = 0.001 ppm

--': Not tested

# Table 4

Water Levels
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample Location	Date	Depth to Bottom/ Feet BToC	Survey Height/ Feet AMSL	Depth to Water/ Feet BToC	Adjusted Elevation/ Feet AMSL	Thickness of Floating Product/ Feet
	5/19/2002	14.19	90.50	5.52	84.98	0.00
	6/16/2002	14.21	90.50	6.35	84.15	0.00
	7/16/2002	14.20	90.50	7.11	83.39	0.00
	8/17/2002	14.18	90.50	8.61	81.89	0.00
	9/11/2002	14.20	90.50	7.53	82.97	0.00
	10/15/2002	14.20	90.50	7.87	82.63	0.00
	11/15/2002 12/16/2002	14.20 14.41	90.50	6.06 2.52	84.44 87.98	0.00
	1/13/2003	14.41	90.50	2.32	88.39	0.00
	2/14/2003	14.18	90.50	3.43	87.07	0.00
	3/12/2003	14.18	90.50	4.08	86.42	0.00
MW-1	4/11/2003	14.18	90.50	2.23	88.27	0.00
IVI VV - 1	7/14/2003	14.39	90.50	6.52	83.98	0.00
	10/26/2003	14.39	90.50	7.70	82.80	0.00
	1/17/2004	14.39	90.50	2.53	87.97	0.00
	4/22/2004	14.39	90.50	3.43	87.07	0.00
	7/23/2004	14.39	90.50	7.35	83.15	0.00
	1/21/2004	14.11 14.37	90.50	4.36 3.25	86.14 87.25	0.00
	4/29/2005	14.37	90.50 90.50	4.05	86.45	0.00
	7/21/2005	14.40	90.50	5.75	84.75	0.00
	10/27/2005	14.37	90.50	5.77	84.73	0.00
	1/22/2006	14.40	90.50	1.62	88.88	0.00
	4/14/2006	14.43	90.44	2.82	87.62	0.00
	5/19/2002	14.25	91.20	5.25	85.95	0.00
	6/16/2002	14.23	91.20	6.19	85.01	0.00
	7/16/2002	14.21	91.20	7.12	84.08	0.00
	8/17/2002	14.16	91.20	7.80	83.40	0.00
	9/11/2002	14.14	91.20	7.71	83.49	0.00
	10/15/2002 11/15/2002	14.13 14.19	91.20 91.20	8.28 6.30	82.92 84.90	0.00
	12/16/2002	14.19	91.20	3.73	87.47	0.00
	1/13/2003	14.14	91.20	2.25	88.95	0.00
	2/14/2003	14.21	91.20	3.25	87.95	0.00
	3/12/2003	14.15	91.20	3.67	87.53	0.00
MW-2	4/11/2003	14.15	91.20	2.20	89.00	0.00
IVI VV -2	7/14/2003	14.30	91.20	6.61	84.59	0.00
	10/26/2003	14.30	91.20	8.18	83.02	0.00
	1/17/2004	14.30	91.20	2.37	88.83	0.00
	4/22/2004	14.30	91.20	2.90	88.30	0.00
	7/23/2004	14.30 14.05	91.20 91.20	7.48 4.19	83.72 87.01	0.00
	1/21/2005	14.05	91.20	2.95	88.25	0.00
	4/29/2005	14.22	91.20	3.45	87.75	0.00
	7/21/2005	14.28	91.20	5.40	85.80	0.00
	10/27/2005	14.24	91.20	6.66	84.54	0.00
	1/22/2006	14.31	91.20	1.84	89.36	0.00
	4/14/2006	14.57	91.13	2.58	88.55	0.00

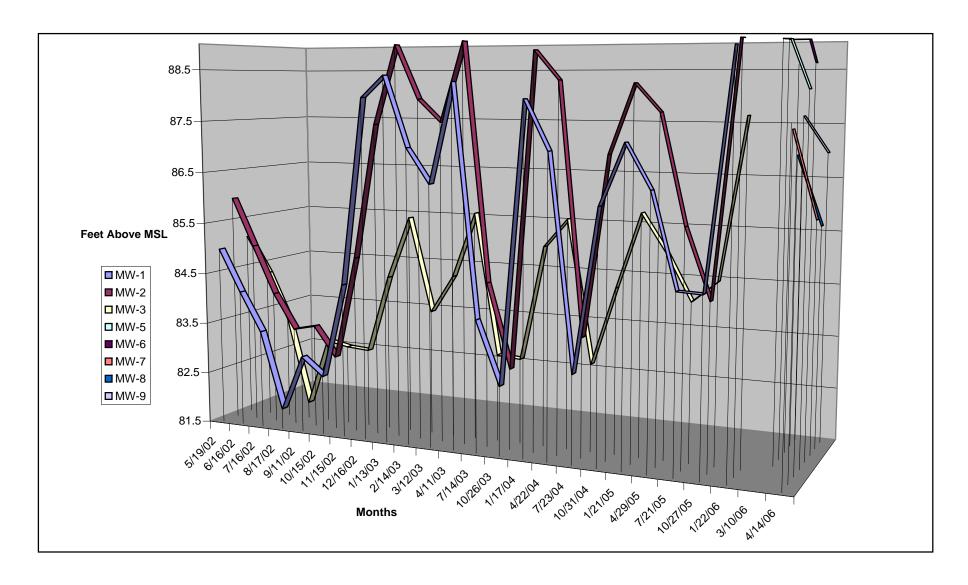
Sample Location	Date	Depth to Bottom/ Feet BToC	Survey Height/ Feet AMSL	Depth to Water/ Feet BToC	Adjusted Elevation/ Feet AMSL	Product/ Feet
	5/19/2002	14.15	90.37	19.00	71.37	0.00
	6/16/2002	14.20	90.37	5.96	84.41	0.00
	7/16/2002	14.20	90.37	6.88	83.49	0.00
	8/17/2002	14.20	90.37	8.56	81.81	0.00
	9/11/2002	14.19	90.37	7.25	83.12	0.00
	10/15/2002	14.20	90.37	7.34	83.03	0.00
	11/15/2002	14.21	90.37	7.37	83.00	0.00
	12/16/2002	14.46	90.37	5.88	84.49	0.00
	1/13/2003	14.20	90.37	4.70	85.67	0.00
	2/14/2003	14.20	90.37	6.49	83.88	0.00
	3/12/2003	14.20	90.37	5.78	84.59	0.00
MW-3	4/11/2003	14.20	90.37	4.55	85.82	0.00
	7/14/2003	14.40	90.37	7.22	83.15	0.00
	10/26/2003	14.40	90.37	7.26	83.11	0.00
	1/17/2004	14.40	90.37	5.11	85.26	0.00
	4/22/2004	14.40	90.37	4.58	85.79	0.00
	7/23/2004	14.40	90.37	7.23	83.14	0.00
	10/31/2004	14.14	90.37	5.79	84.58	0.00
	1/21/2005	14.41	90.37	4.41	85.96	0.00
	4/29/2005	14.42	90.37	5.10	85.27	0.00
	7/21/2005	14.43	90.37	5.94	84.43	0.00
	10/27/2005	14.42	90.37	5.56	84.81	0.00
	1/22/2006	14.40	90.37	2.67	87.70	0.00
	4/14/2006 3/10/2006	14.42 12.94	90.31 91.24	3.45 1.93	86.86	0.00
MW-5	4/14/2006	12.94	91.24	3.09	89.31 88.15	0.00
	3/10/2006	12.93	91.24	0.92	90.19	0.00
MW-6	4/14/2006	12.54	91.11	2.51	88.60	0.00
	3/10/2006	12.39	89.26	1.83	87.43	0.00
MW-7	4/14/2006	12.39	89.26	3.44	85.82	0.00
	3/10/2006	12.41	88.57	1.63	86.94	0.00
MW-8	4/14/2006	12.41	88.57	2.91	85.66	0.00
	3/10/2006	12.49	88.16	0.52	87.64	0.00
MW-9	4/14/2006	12.49	88.16	1.19	86.97	0.00
	4/14/2000	14.47	00.10	1.17	00.77	0.00

Notes: BToC: Below Top of Casing

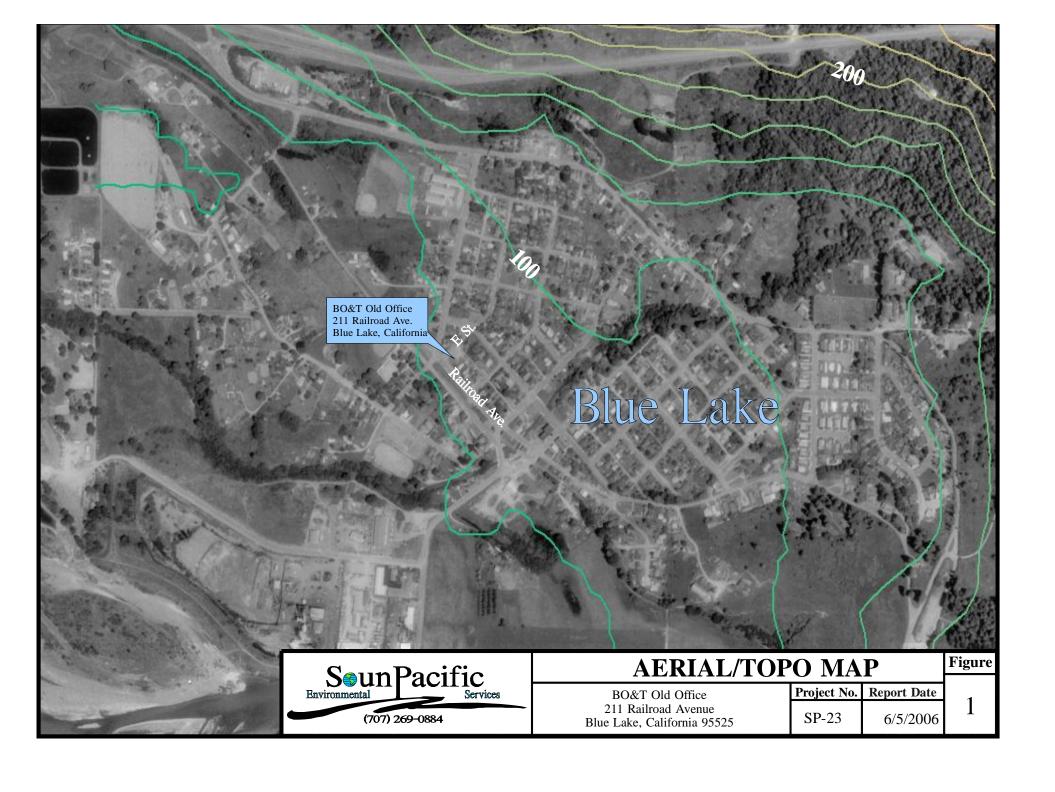
AMSL: AboveMean Sea Level

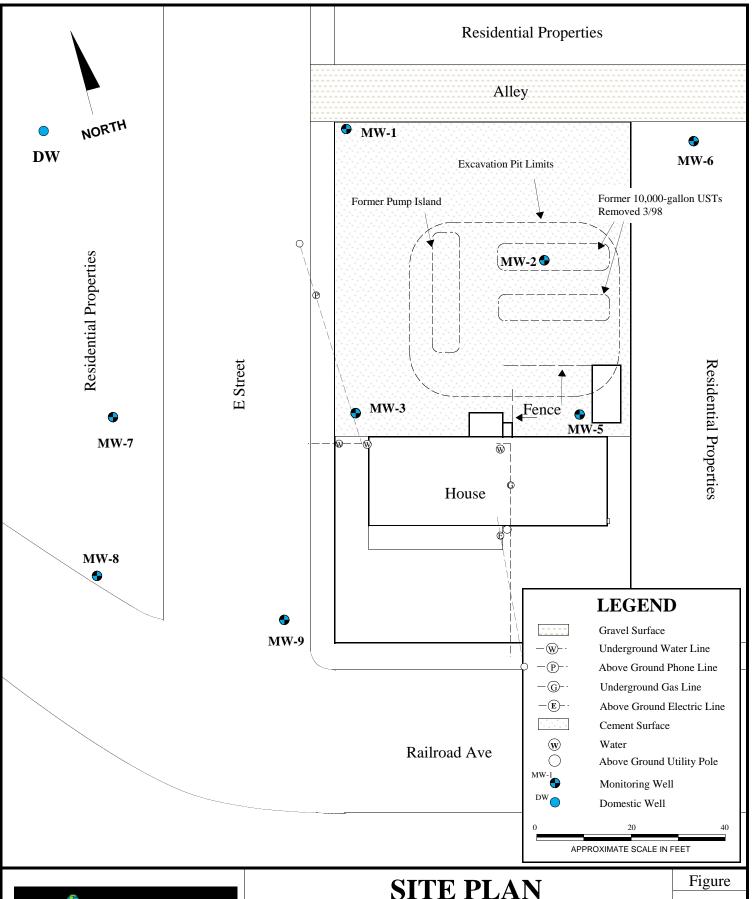
Chart 1
Hydrograph
BO and T Old Office

211 Railroad Avenue Blue Lake, California 95525



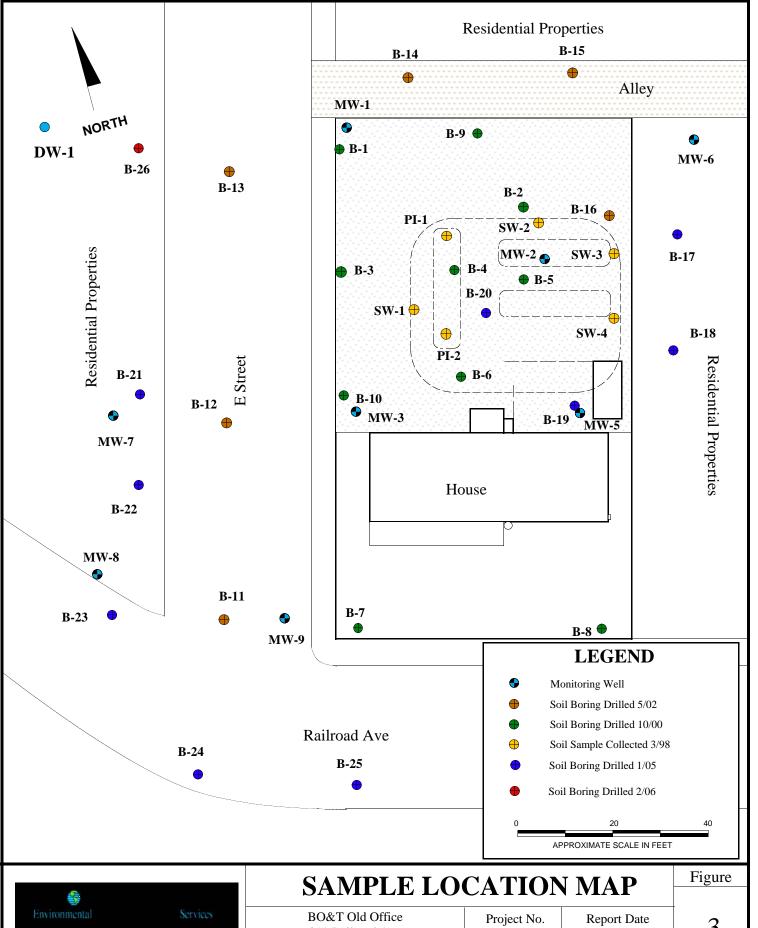
# **Figures**





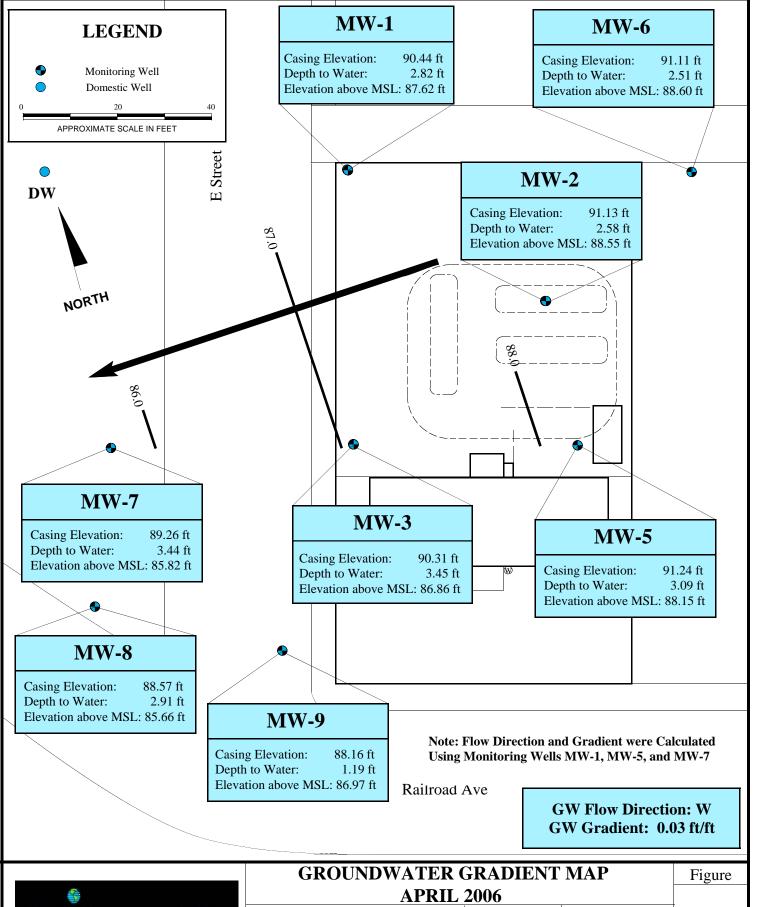


SITE PLAN										
SHEILAN										
BO&T Old Office	Project No.	Report Date	2							
211 Railroad Ave Blue Lake, California 95525	SP-23	6/5/06	<u> </u>							



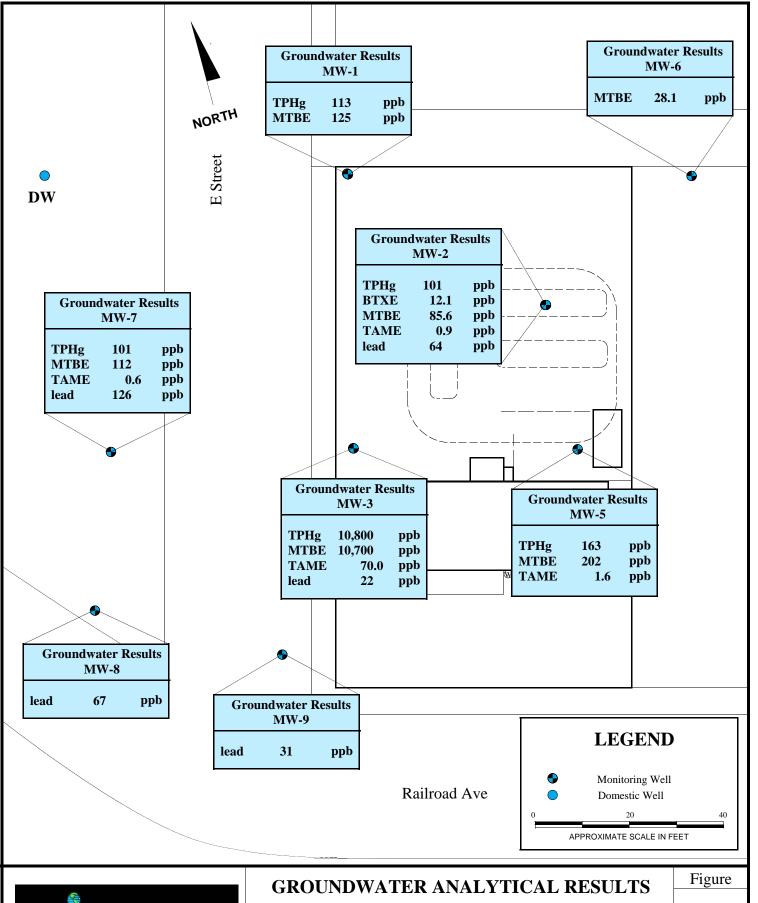


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BO&T Old Office	Project No.	Report Date	7 2
211 Railroad Ave	SP-23	6/5/06	] 3



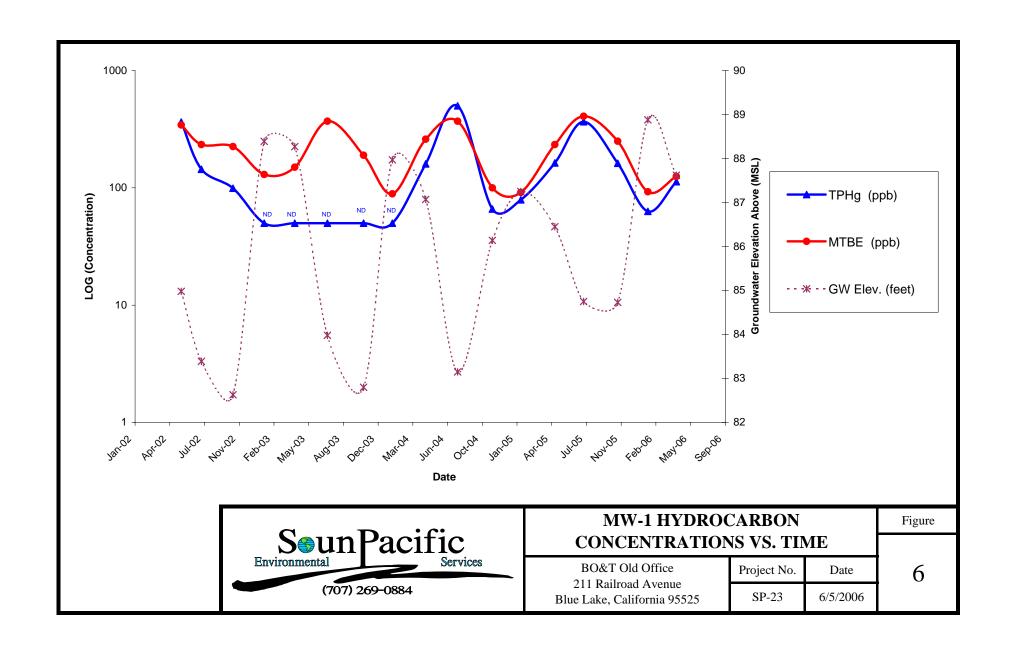


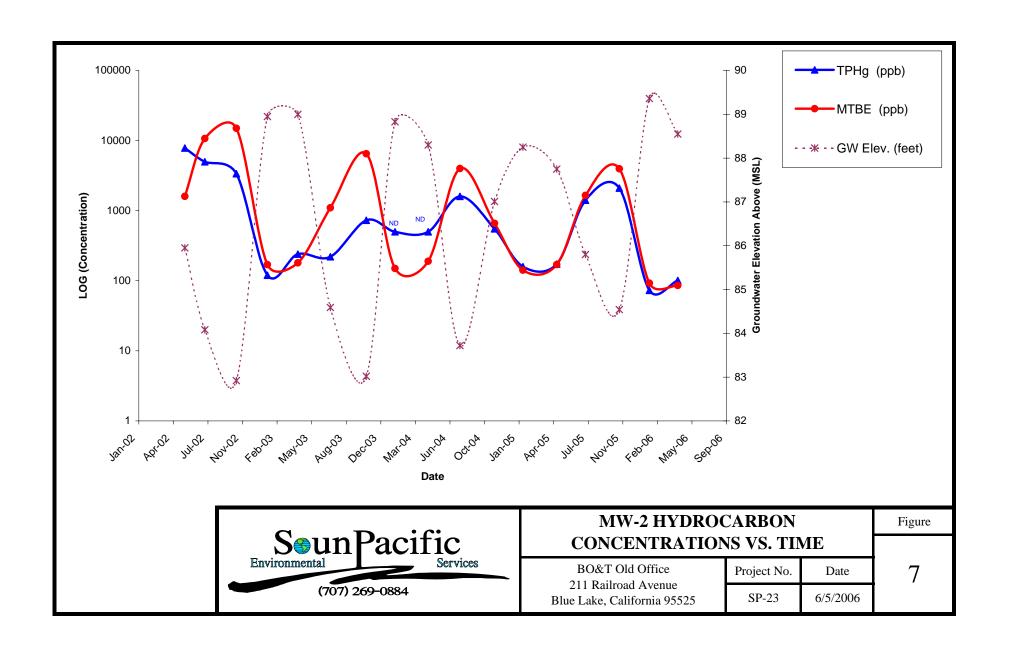
GROUNDWATER (	Figure		
APRIL			
BO&T Old Office	Project No.	Report Date	4
211 Railroad Ave Blue Lake, California 95525	SP-23	6/5/06	

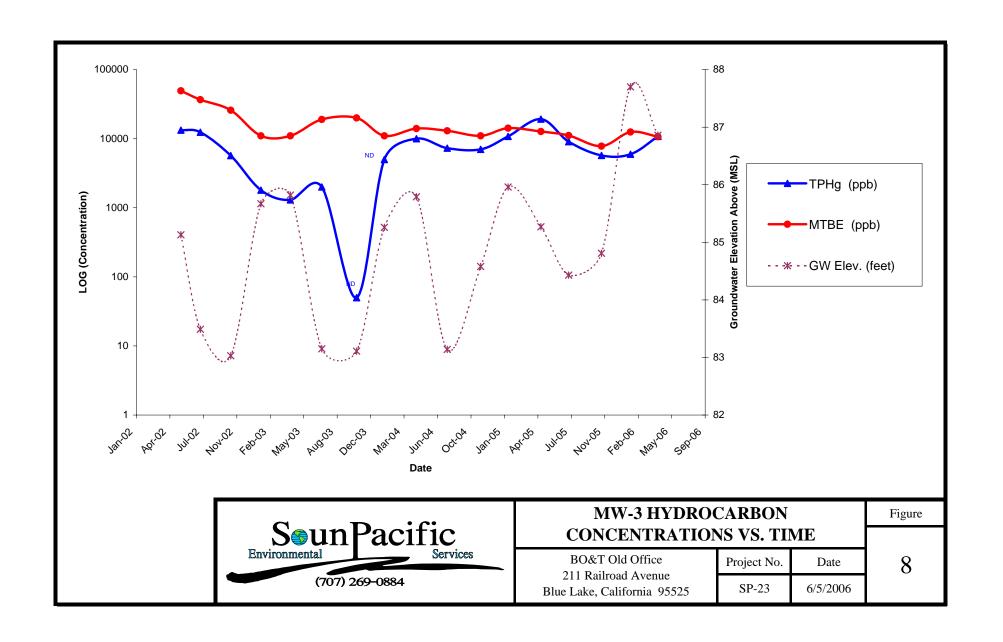




GROUNDWATER ANA	Figure		
BO&T Old Office	Project No.	Report Date	5
211 Railroad Ave Blue Lake, California 95525	SP-23	6/5/06	







# **Appendices**

# Appendix A



voice **530.243.7234** fax **530.243.7494** 

2218 Railroad Avenue Redding, California 96001

May 01, 2006

Lab ID: 6040550

Andy Malone SOUNPACIFIC 4612 GREENWOOD HEIGHTS DR KNEELAND, CA 95549 RE: BO&T OLD OFFICE SP-500

Dear Andy Malone,

Enclosed are the analysis results for Work Order number 6040550. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

For

Ricky D. Jensen Laboratory Director

California ELAP Certification Number 1677



voice 530.243.7234

2218 Railroad Avenue fax **530.243.7494** Redding, California 96001

Report To:

SOUNPACIFIC

4612 GREENWOOD HEIGHTS DR

KNEELAND, CA 95549

Attention:

Andy Malone

BO&T OLD OFFICE SP-500 Project:

Lab No:

6040550 05/01/06

Reported: Phone:

707-269-0884

P.O. #

### Metals - Total

Analyte			Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-1	Water	(6040550-01)	Sampled:04/	14/06 00:00	Received:04/1	19/06 10:05					
Lead			ug/l	ND	J		15	EPA 6010A	04/25/06	04/21/06	B6D0436
MW-2	Water	(6040550-02)	Sampled:04/	14/06 00:00	Received:04/1	19/06 10:05					
Lead			ug/l	64			15	EPA 6010A	04/25/06	04/21/06	B6D0436
MW-3	Water	(6040550-03)	Sampled:04/	14/06 00:00	Received:04/1	9/06 10:05					
Lead			ug/l	22	·		15	EPA 6010A	04/25/06	04/21/06	B6D0436
MW-5	Water	(6040550-04)	Sampled:04/	14/06 00:00	Received:04/1	9/06 10:05					
Lead			ug/l	ND	J		15	EPA 6010A	04/25/06	04/21/06	B6D0436
MW-6	Water	(6040550-05)	Sampled:04/	14/06 00:00	Received:04/1	9/06 10:05					
Lead			ug/l	ND	j		15	EPA 6010A	04/25/06	04/21/06	B6D0436
MW-7	Water	(6040550-06)	Sampled:04/	14/06 00:00	Received:04/1	9/06 10:05					
Lead			ug/l	126			15	EPA 6010A	04/25/06	04/21/06	B6D0436
MW-8	Water	(6040550-07)	Sampled:04/	14/06 00:00	Received:04/1	9/06 10:05					
Lead			ug/l	67			15	EPA 6010A	04/25/06	04/21/06	B6D0436
MW-9	Water	(6040550-08)	Sampled:04/	14/06 00:00	Received:04/1	9/06 10:05					
Lead			ug/l	31			15	EPA 6010A	04/25/06	04/21/06	B6D0436



laboratory

voice 530.243.7234

2218 Railroad Avenue fax **530.243.7494** Redding, California 96001

Report To:

SOUNPACIFIC

4612 GREENWOOD HEIGHTS DR

KNEELAND, CA 95549

Attention: Andy Malone

BO&T OLD OFFICE SP-500 Project:

Lab No:

6040550 05/01/06

Reported: Phone:

707-269-0884

P.O. #

#### **Volatile Organic Compounds**

Analyte		Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-1 Water	(6040550-01)	Received:04/19/06 10:05								
Gasoline		ug/l	113	G-03		50.0	EPA 8015/8260	04/21/06	04/21/06	B6D0497
Benzene		ıı.	ND			0.5	11	и, —,,	н	n n
Toluene		11	ND			0.5	0	u	11	
Ethylbenzene		II	ND			0.5	п	IT	U	n
Xylenes (total)		11	ND			1.0	U	11	n	11
Methyl tert-butyl	ether	U	125	R-01		10.0	u	04/21/06	11	n
Di-isopropyl ether		n	ND			0.5	н	04/21/06	II .	11
Tert-amyl methyl et	ther	11	ND			0.5	u	11	п	n
Ethyl tert-butyl ethe		II	ND			0.5	ır	u u	11	
Tert-butyl alcohol	-	n	ND			50.0	11	п	n	U
Surrogate: 4-Bromo	ofluorobenzene		96.6 %		43-15		ıı .	"	"	"
MW-2 Water	(6040550-02)	Sampled:04/1		Received:04/19				···		
Gasoline		ug/l	101	G-03		50.0	EPA 8015/8260	04/24/06	04/21/06	B6D0507
Benzene		-57	10.1			0.5	ır ,	"	11	11
Toluene		11	ND			0.5	n		ır	11
Ethylbenzene		It	2.0			0.5	v	n	и	11
Xylenes (total)		н	ND			1.0	n	II .	11	n
Methyl tert-butyl	ether	u	85.6	R-01		10.0	n	04/21/06	u u	11
Di-isopropyl ether		н	ND			0.5	11	04/24/06	н	u .
Tert-amyl methyl	ether	п	0.9			0.5	"	"	11	n
Ethyl tert-butyl ethe		ur	ND			0.5	n	н	н	
Tert-butyl alcohol	•	н	ND			50.0	o o		н	11
Surrogate: 4-Bromo	fluorobenzene		102 %		43-15		"	"	"	"
MW-3 Water	(6040550-03)	Sampled:04/1		Received:04/19/						
Gasoline		ug/l	10800	G-03, R-07		5000	EPA 8015/8260	04/21/06	04/21/06	B6D0497
Benzene		"	ND	, R-07		50.0	п '	่น	и .	н
Toluene		n	ND	R-07		50.0	u	U	n	17
Ethylbenzene		11	ND	R-07		50.0	н	н	IT	n
Xylenes (total)		If	ND	R-07		100	11	11	н	11
Methyl tert-butyl	ether	п	10700	R-01, R-07		1000	II.	04/21/06	O.	ti -
Di-isopropyl ether		11	ND	R-07		50.0	n.	04/21/06	n	н
Tert-amyl methyl	ether	u	70.0	R-07		50.0	u	n'	11	11
Ethyl tert-butyl ether		u	ND	R-07		50.0	u	17	11	tt .
Tert-butyl alcohol		u u	ND	R-07		5000	11	ır	n	
Surrogate: 4-Bromo	fluorobenzene		95.8 %		43-155		u	"	"	"
MW-5 Water	(6040550-04)	Sampled:04/1	4/06 00:00	Received:04/19/	06 10:05				•	****
Gasoline	<del>,</del>	ug/l	163	G-03		50.0	EPA 8015/8260	04/21/06	04/21/06	B6D0497
Benzene		n	ND			0.5	U	**	11	11
Toluene		o o	ND			0.5	II	"	U	IT
Ethylbenzene		If	ND			0.5	11		п	п
Xylenes (total)		п	ND			1.0	11	n	"	11
Methyl tert-butyl ether		" 202		R-01		10.0	11	04/21/06	u	11
Di-isopropyl ether		If	ND			0.5	IT	04/21/06	II .	11
Tert-amyl methyl ether		n	1.6			0.5	n	н	н	"
Ethyl tert-butyl ether		u	ND			0.5	"	11	TI	U
Tert-butyl alcohol		н	ND			50.0	II .	U	ii .	II .
Surrogate: 4-Bromofluorobenzene			99.2 %		43-155		"	"	n	n
MW-6 Water	(6040550-05)	Sampled:04/1	4/06 00:00	Received:04/19/						
Gasoline		ug/l	ND			50.0	EPA 8015/8260	04/21/06	04/21/06	B6D0497
Benzene		"	ND			0.5	ır	11	"	н
Toluene		n .	ND			0.5	11	n	u	U

Basic Laboratory, Inc. California D.O.H.S. Cert #1677

Page 3 of 5



voice 530.243.7234 fax **530.243.7494** 

2218 Railroad Avenue Redding, California 96001

ND

98.4 %

Report To:

SOUNPACIFIC

4612 GREENWOOD HEIGHTS DR

KNEELAND, CA 95549

Attention: Andy Malone

Project: BO&T OLD OFFICE SP-500

Lab No:

6040550

Reported: Phone:

05/01/06 707-269-0884

P.O. #

### **Volatile Organic Compounds**

Totalic Organic Compounds											
Analyte		Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch	
MW-6 Water	(6040550-05)	Sampled:04/	14/06 00:00	Received:04/1	9/06 10:05						
Ethylbenzene		11	ND			0.5	"	н	04/21/06	и	
Xylenes (total)		II .	ND			1.0	и	11	п	н	
Methyl tert-butyl	ether	n	28.1			1.0	11	11	11	If	
Di-isopropyl ether		tt.	ND			0.5	ır	н	II	n	
Tert-amyl methyl et	her	н	ND			0.5	н	u	11	· n	
Ethyl tert-butyl ethe	er e	n	ND			0.5	**	n	11	II .	
Tert-butyl alcohol		II .	ND			50.0	II.	н	n		
Surrogate: 4-Bromo	ofluorobenzene		97.0 %		43-1.	55	"	"	"	"	
MW-7 Water	(6040550-06)	Sampled:04/3	14/06 00:00	Received:04/19	9/06 10:05						
Gasoline	• • •	ug/l	101	G-03		50.0	EPA 8015/8260	04/21/06	04/21/06	B6D0497	
Benzene		11	ND			0.5	н	u	п	11	
Toluene		II .	ND			0.5	11	It	ii	U	
Ethylbenzene		н	ND			0.5	u ·	n	II .	lf .	
Xylenes (total)		11	ND			1.0	H	"	М	н	
Methyl tert-butyl	ether	If	112	R-01		10.0	11	04/21/06	**	11	
Di-isopropyl ether		n	ND			0.5	u.	04/21/06	"	"	
Tert-amyl methyl	ether	11	0.6			0.5	II.	11	н	"	
Ethyl tert-butyl ether		IT	ND			0.5	11		n		
Tert-butyl alcohol		n n	ND			50.0	n	п	n.	11	
Surrogate: 4-Bromo	fluorobenzene		96.0 %		43-15	5 <i>5</i>	"	"	rr .	"	
MW-8 Water	(6040550-07)	Sampled:04/1	4/06 00:00	Received:04/19	9/06 10:05						
Gasoline		ug/l	ND			50.0	EPA 8015/8260	04/21/06	04/21/06	B6D0497	
Benzene		0	ND			0.5	II .	"	"	11	
Toluene		II .	ND			0.5	11	IT.	"	11	
Ethylbenzene		ti .	ND			0.5	0	n	"	II .	
Xylenes (total)		u	ND			1.0	II.	11	"	н	
Methyl tert-butyl eth	er	IT	ND			1.0	**	n n	u u	"	
Di-isopropyl ether		н	ND			0.5	0	"	II	II .	
Tert-amyl methyl eth	ner	ıı .	ND			0.5	H	"	ti	"	
Ethyl tert-butyl ether	f	ıı	ND			0.5	Ħ	"	"	11	
Tert-butyl alcohol		11	ND			50.0	U	н	ıı .	11	
Surrogate: 4-Bromoi			97.4 %		43-15	55	"	"		"	
MW-9 Water	(6040550-08)	Sampled:04/1	4/06 00:00	Received:04/19	/06 10:05						
Gasoline		ug/l	ND			50.0	EPA 8015/8260	04/21/06	04/21/06	B6D0497	
Benzene		"	ND			0.5	H	u	*1	"	
Toluene		**	ND			0.5	H	U	U	"	
Ethylbenzene "			ND			0.5	11	и	If	17	
Xylenes (total)		If .	ND			1.0	II	N	II .	lT .	
Methyl tert-butyl ethe	er	и	ND			1.0	ir	ti	11	н	
Di-isopropyl ether		u	ND			0.5	п	IF	II .	11	
Tert-amyl methyl eth	ner	U	ND			0.5	11	It.	"	11	
Ethyl tert-butyl ether		It	ND			0.5	u	"	"	o o	
- 4 ( ) ( ) ( )		**	ND			F0 0			**		

50.0

43-155

Tert-butyl alcohol

Surrogate: 4-Bromofluorobenzene



voice 530.243.7234 fax 530.243.7494

2218 Railroad Avenue Redding, California 96001

Report To:

**SOUNPACIFIC** 

4612 GREENWOOD HEIGHTS DR

KNEELAND, CA 95549

Attention: Andy Malone

Project: BO&T OLD OFFICE SP-500 Lab No:

6040550 05/01/06

Reported: Phone:

707-269-0884

P.O. #

#### **Notes and Definitions**

R-07 The sample was diluted due to the presence of high levels of target analytes resulting in elevated reporting limits.

R-01 The Reporting Limit and Detection Limit for this analyte have been raised due to necessary sample dilution.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). The J flag is equivalent to the DNQ Estimated Concentration flag.

G-03 The GRO result reported for this sample does not match the laboratory's gasoline standard, but is due primarily to MTBE.

DET Analyte DETECTED

Analyte NOT DETECTED at or above the detection limit ND

NR Not Reported

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference < Less than reporting limit

Less than or equal to reporting limit

Greater than reporting limit

Greater than or equal to reporting limit <u>></u>

Method Detection Limit MDL RL/ML Minimum Level of Quantitation

MCL/AL Maxium Contaminant Level/Action Level

mg/kg Results reported as wet weight TTLC Total Threshold Limit Concentration Soluble Threshold Limit Concentration STLC TCLP Toxicity Characteristic Leachate Procedure

Basic Laboratory, Inc. California D.O.H.S. Cert #1677

	ORY CHAIN OF CUS				LAB#:	
2218 Railroad Ave., Redding, CLIENT NAME:	PRO	OJECT NAME:		PROJECT #:	6040550 SAMPLE TYPE:	
Sounfacific  ADDRESS:	REC	ONT OU	Office  IP. DATE: ,	SP-500 STATE FORMS?	Groundwater # OF SAMPLES:	
Sounfacific  ADDRESS: P.O. Box 13	4	tanda		# OF SAMPLES:		
Kneeland, (A 95549	TUR	<u></u>	ME: STD X	RUSH	PAGEOF	
PROJECT MANAGER:					REP:	
PHONE: IFAX: IFAX: 107-769-000	-MAIL: OUNDY DO DUMPACTIC COM F	(90	बेर्ड (ने		ID#:	
107-769-0884 707-269-0699 S INVOICE TO: Soun Pacific so	murracific.com  B	EPA 82606 EPA 82606	(ER) (240b)		SYSTEM#:	
SPECIAL MAIL E-MAIL FAX	EDT T	286			GLOBAL ID #:	
WACS 16th Quar	terly   L	× × ×	Lead		QC = 1 2 3 4	
DATE TIME R P L SAMPLE D	S DESCRIPTION S	<b>占</b> 贸;	Lea		LAB ID REMARKS	
4-14-06 X MW-1	4	XXX	X		2	
Mw-2 Mw-3					3	
MW-5					4 9	
MW-6 MW-7					5 7	
MW-8					7 0	
W MW-9	<b>J</b>	V V V	<b>V</b>		8 3	
					77	
					,3	
					2	
					3,	
					7,	
	TE/TIME: RELING	HCL QUISHED BY:		OTHER	DATE/TIME:	
Tack skeahaw 4	114/06 -	Tien-	yu Ta	1	4-17-06 DATE/TIME:	
RECEIVED BY: (SAMPLES UNVERIFIED) DAT		QUISHED BY:			DATE/TIME:	
RECEIVED BY LAB: (VERIFIED)  Out of A Control of A Contro	E/TIME: SAMPL	LES SHIPPED	VIA: UPS FEE	DEX POST BUS	OTHER	
NSTRUCTIONS, TERMS AND CONDITIONS ON BACK.	/0.00					

# Appendix B



# **Standard Operating Procedures**

# **Groundwater Level Measurements and Free Phase Hydrocarbon Measurements**

All SounPacific staff and contractors shall adopt the following procedures any time that groundwater elevations are determined for the purposes of establishing groundwater gradient and direction, and prior to any sampling event.

Wells are to be tested for free phase hydrocarbons (free product) before the first development or sampling of any new well, and in any well that has historically contained free product.

# **Equipment Checklist**

ш	Combination water level / free phase hydrocarbon indicator probe (probe)
	Gauging Data / Purge Calculations Sheet
	Pencil or Pen/sharpie
	Disposable Gloves
	Distilled Water and or know water source on site that is clean
	Alconox (powder) or Liquinox (liquid) non-phosphate cleaners—do not use soap!
	Buckets or Tubs for decontamination station
	Tools necessary to access wells
	Site Safety Plan
	This Standard Operating Procedure
	Notify Job site business that you will be arriving to conduct work.

### **Procedure**

- 1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
- 2. Access and open all monitoring wells to be measured. Allow wells to equilibrate for approximately 15 minutes before taking any measurements.

# Standard Operating Procedure for Groundwater Level and Free Product Measurements Page 2 of 2

- 3. Decontaminate probe with Alconox or Liquinox solution, and rinse with distilled water.
- 4. Determine the diameter of the well to be measured and indicate this on the Gauging Data / Purge Calculations Sheet.
- 5. <u>Words of caution:</u> Please be careful with water level and product meters probes are not attached with high strength material so please make sure to avoid catching the end on anything in the well and make sure not to wind reel to the point that it could pull on the probe. *If product is suspect in a well, go to step 6, if no product is suspected go to step 7 below.*
- 6. When product is present or suspected: use the product level meter. Clip the static charge clamp to the side of the well casing. Then lower probe into the well through the product/water interface about one foot if possible. Then slowly raise the probe back up through the product/water interface layer and record the level as the tone changes from solid to broken-record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTP). Continue to raise the probe up through the product until the tone stops completely-record this level on the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW). Then go to step 8.
- 7. When <u>no</u> product is present or suspected: If no free product is present, record the depth of the water (to the nearest 0.01 foot) relative to the painted black mark on the top of the well casing. Leave the probe in the well just a hair above the water level to ensure the well as equilibrated. As the well rises, the tone will sound. Make sure no increase in water levels have occurred in over a ten-minute period. Water levels can lower as well as rise. Make sure you note when the level you keep lowering the probe to has remained stable for at least ten minutes. Once this has been accomplished, please record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW).
- 8. Turn off the probe, and use the probe to determine the depth to the bottom of the well relative to the top of the well casing. This is the depth to bottom measurement (DTB).
- 9. Decontaminate probe and tape by washing in an Alconox/Liquinox solution (*read directions on solution for ratio of water to cleanser*) and use the toothbrush provided to remove any foreign substance from the probe and tape. Then triple rinse probe and tape with clean water and then proceed to take measurements in the next well.
- 10. If sampling is to occur, proceed to implement SounPacific's Standard Operating Procedure for Monitoring Well Purging and Sampling. If no sampling is to be performed, close and secure all wells and caps.



# **Standard Operating Procedures**

# **Monitoring Well Purging and Groundwater Sampling**

All SounPacific employees and contractors shall adopt the following procedures any time that groundwater samples are to be taken from an existing groundwater monitoring well.

Prior to the implementation of these procedures, the groundwater level **MUST** be measured and the presence of free phase hydrocarbons determined in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

# **Equipment Checklist**

Gauging Data / Purge Calculations Sheet used for water level determination
Chain of Custody Form
pH/ Conductivity / Temperature meter
Pencil or Pen
Indelible Marker
Calculator
Disposable Gloves
Distilled Water
Alconox/liquinox liquid or powdered non-phosphate cleaner
Buckets or Tubs for decontamination station
Bottom-filling bailer or pumping device for purging
Disposable bottom-filling bailer and emptying device for sampling
String, twine or fishing line for bailers
Sample containers appropriate for intended analytical method (check with lab)
Sample labels
Site Safety Plan
Tools necessary to access wells
Drum space on site adequate for sampling event

# SounPacific Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, Page 2 of 3

### **Procedure**

- 1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
- 2. Measure groundwater levels and check for the presence of free product in accordance with the Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

# **Purging**

- 3. Calculate and record the volume of standing water in each well using the information provided on the Gauging Data / Purge Calculations sheet.

  (DTB-DTW) x Conversion Factor = Casing Volume.
- 4. The purge volume shall be at least three times and no more than seven times the volume of standing water (the casing volume).
- 5. Purge the well by bailing or pumping water from the well into a calibrated receptacle, such as a five gallon bucket or tub with markings to indicate one gallon increments. Collect purgeate in a 55 gallon labeled drum and store on site. Drum labels should include the date, contents, site number, and SounPacific's name and telephone number.
- 6. Take measurements of pH, conductivity, temperature, and visual observations to verify the stabilization of these parameters. At least five measurements of these parameters should be made throughout the purging process. The parameters shall be considered stabilized if successive measurements vary by less than 0.25 pH units, 10% of conductivity in μS, and 1°C (or 1.8°F). Continue purging until at least three times the casing volume has been removed, and the measured parameters have stabilized as indicated above. Do not exceed seven casing volumes.
- 7. Take a final depth to groundwater measurement and calculate the casing volume of the recharged well. Ideally, the casing volume should have recharged to at least 80% of the original measured casing volume before sampling commences. If due to slow recharge rates it is not feasible to wait for the well to fully recharge, then note this on the Gauging Data / Purge Calculation Sheet and proceed to sample following the procedure below.

# SounPacific Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, Page 3 of 3

## **Sampling**

- 8. After completing groundwater measurement, and checking for free product if necessary, in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, and after purging monitoring wells as described above, groundwater samples may be collected.
- 9. Slowly lower a clean, previously unused disposable bailer into the well water approximately half of the bailer length, and allow the bailer to slowly fill.
- 10. Withdraw the full bailer from the monitoring well and utilize the included (clean and unused) bottom-emptying device to fill the necessary sample containers, and seal the container with the included PTFE (Teflon) lined cap.
- 11. When filling VOAs, fill the VOA completely full, with the meniscus rising above the rim of the bottle. Carefully cap the VOA and invert it and gently tap it to determine whether air bubbles are trapped inside. If the VOA contains air bubbles, refill the VOA and repeat this step.
- 12. All samples shall be labeled with the Sample ID, the Sample Date, and the Sample Location or Project Number. Use an indelible marker for writing on sample labels.
- 13. Record all pertinent sample data on the Chain of Custody.
- 14. Place samples in an ice chest cooled to 4°C with ice or "blue ice". Bottles should be wrapped in bubble wrap, and VOA's should be inserted in a foam VOA holder to protect against breakage. Samples are to be kept at 4°C until delivered to the laboratory. Any transference of sample custody shall be indicated on the Chain of Custody with the appropriate signatures as necessary.
- 15. Utilize clean, previously unused gloves, bailer and line, and bottom-emptying device for each well sampled.
- 16. When finished with all sampling, close and secure all monitoring wells.
- 17. Leave the site cleaner than when you arrived and drive safely.

# **Appendix C**

#### GAUGING DATA/PURGE CALCULATIONS

Job Site: BO AND T OLD OFFICE

Event: 16 +4 Q SAMPLING



WELL NO.	DIA. (in.)	DTB (fl.)	DTW (ft.)	ST (ft.)	CV (gal.)	PV (gal.)	SPL (fL)	Bailer Loads	Notes
MW-1	z	14.43	2.82	11.61	1,9	5.7			No He open, No SHREN
MW-Z	Z	14.57	2.58	11.99	1.9	5.7			He appro(SUBAT), NO SHERN
MW-3	Z	14.42	3.45	10.97	1.8	5.4			He FOR (SULLY), SHAZA , SLOW RECHARGE
MW-5	2	12.93	3.09	9.84	1.6 #	4.8			No over SHARN
MW-b	Z	12.53	2.51	10.02	1.6	4.8	223000000000000000000000000000000000000	723400	No SHERN, NO ODOR
MW-7	2	12.39	3.44	8.95	1.4	4.2			No SHARN, No open
MW-8	Z	12.40	2.91	9,49	1.5	4.5			No SHARN, NO ODUR
mw-9	Z	12,49	1.19	11.3	1.8	5.4			SHERN , No ODOR

#### Explanation:

DIA. = Well Diameter

DTB - Depth to Bottom

DTW - Depth to Water

ST = Saturated Thickness (DTB-DTW)

CV = Casing Volume (ST x cf)

PV = Purge Volume (standard 3 x CV,

well development 10 x CV)

SPL = Thickness of Separate Phase Liquid

#### Conversion Factors (cf):

2 in. dia. well of = 0.16 gal./ft. 4 in. dia. well of = 0.65 gal./ft.

6 in. dia. well cf = 1.44 gal./ft.

Sampler:

JACK SKEAHAN





Date: 4/14/06 Project Name: BO AND T OLD OFFICE Project No: SP-23 Well Number: MW-1 Analyses TPHy, BIXE, 5-0XYS, MINA TOTAL LIGAD Tested: Sample (3) HCL VOAS AND (1) 250 M/ POLY BOTTLE Purpe × Pump Bailer Technique: Interface Sounder Water Meter Water & Free Product Levels Time Depth to Water Depth to Product 9:11 2.82 NO SHXKN 9:34 2.82 END 12~1 # OF DRUMS ONSITE 8 EMPTY , 1 1/2 H20 Field Measurements Total Vol. DO/(%) Time Temp/(F) Cond./(ms/cm) DO/(mg/L) Removed/(gal) 0.77 6.04 57.75 0.377 7.5 9:49 1.9 6.08 0.390 4.3 0.44 58.00 9:55 6.08 10:01 3.8 58.09 0.390 0.37 3.7 6.08 0.400 0.35 5.7 58.10 3.5 10:07 JACK SKEAHAN Field Scientist:



Sheet Z of 8 Date: 4/14/06 Project Name: BD AND T DED DEFICE Project No: SP-Z3 Well Number: MW-Z TPHQ, BIXE 5-0XYS, TOTAL LEAD Tested: (3) HCL VOAS AND (1) 250 ml PORY BOTTLE Sample Purge Pump Bailer Technique: Interface Sounder Meter Water Meter Used: Water & Free Product Levels Time Depth to Water Depth to Product Notes: 2.58 NO SHAKN 9:15 9:38 2.58 ENP Field Measurements Total Vol. DO/(%) Cond./(ms/cm) Temp/(F) DO/(mg/L) Removed/(gal) 6.09 55.59 0.154 0.25 2.4 10:16 54.66 0.25 1.9 0.153 2.3 6.12 10:23 0.42 4.0 10:27 3.8 6.17 54.47 0.164 10:33 0.57 5.4 0.170 6.20 54.46 Field Scientist: JACK SKRAHMAN



Sheet 3 of 8 4/14/06 Project Name: BO ANDT PLS OFFICE Project No: SP-23 Well Number: MW-3 Analyses TPHQ BIXE, 5-0XYS, TOTAL LEAD Tested: Sample HCL VOAS AND (1) 250 ml POLY BOTTLE Containers: Purge Pump Bailer Technique: Interface Sounder Water Meter Used: Water & Free Product Levels Time Depth to Water Depth to Product Notes: 4.88 NO SHJEN 9:19 No SHERN 4.50 9:41 SHARE 10:05 4.03 3.58 NO SHARN 10:22 3.45 No SHARW 10:32 ENA \* SLOW RECHARGE, ANOMOLOUS SRYSON READINGS ON LAST MEASUREMENT Field Measurements Total Vol. DO/(%) Cond./(ms/cm) Temp/(F) DO/(mg/L) Removed/(gal) 6.25 0.532 0.32 56.19 10:43 3.1 6.26 0.541 0.60 10:49 56.22 5.8 1.8 3.6 10:53 6.24 56.54 0.486 0.28 2.7 35.7 5.4 6.23 56.50 11:45 0.486 3.71

Field Scientist: JACK SKRAHAN



Date: 4/14/06 Project Name: BO AND T DLO OFFICE Project No: SP-Z3 Well Number: MW-5 TPHQ, BTXE, 5-0XYS, TOTAL LEAD Analyses Tested: Sample (3) HCL VOAS AND (1) 250 MI POZY BOTTLE Containers: Purge Bailer Pump Technique: Interface Sounder Water Meter Used: Water & Free Product Levels Time Depth to Water Depth to Product Notes: 3.08 9:22 NO SHEEN SHEEN 9:46 3.09 END Field Measurements Total Vol. DO/(%) DO/(mg/L) Temp/(F) Cond./(ms/cm) Removed/(gal) 6.66 0,20 1.9 53.66 0.403 11:11 1.6 0,25 0.292 6.67 53.22 2.4 11:16 6.49 53.30 0.247 0.30 11;23 2.8 3, 2 53,24 0.50 6.47 0,221 4.6 11:27 4.8 Field Scientist: Jack SKBARAN



Sheet 5 of 8 Date: 4/14/06 Project Name: BO AND T DLO OFFICE Project No: SP-23 Well Number: MW-6 TPHQ, BTXE, 5-0XYS, TOTAL LEAD HCL VOAS AND (1) 250 ml PORY BOTTLE Containers: Purge Bailer Pump Technique: Interface Sounder Used: Water Meter Water & Free Product Levels Depth to Water Depth to Product 9:25 2.51 NO SUREN No SHIGN 2.5/ 9:49 END Field Measurements Total Vol. DO/(%) Temp/(F) Cond./(ms/cm) DO/(mg/L) Removed/(gal) 0.30 6.66 56.46 0.366 2.9 11:55 55.46 0.247 0.32 3.1 12,04 0.308 0.58 5.6 55.71 12:10 0.62 6.0 12:14 56.18 0,371 Field Scientist: Jack SKBAWAN



4/14/06 Project Name: BO 40 T 040 OFFICEProject No: SP-Z3 Well Number: MW-7 TPHO BIXE, 5-0XYS, TOTAL LEAD Tested: (3) HCL VOAS AND (1) 250 ml POLY BOTTLE Containers: Purge X Pump Technique: Interface Sounder Used: Water Meter Water & Free Product Levels Depth to Water Depth to Product No SHERN 9:27 3.44 9:53 END Field Measurements Total Vol. DO/(%) Temp/(F) Cond./(ms/cm) DO/(mg/L) pН Removed/(gal) 6.12 57.65 0.152 0.11 1.1 12:24 1.4 0.175 56.87 0.18 12:31 1.8 56.86 12:35 2.8 0.167 8.7 0.91 6.09 0.162 4.2 56.89 1,24 12:40 12.D Field Scientist: Jack SKEAHAN



							Sheet Oi O					
Date:	4/14	1/06	Project Name:	BO Aro T	04 OFFICE	Project No: 5P-2	3 Well Number: Mw - 8					
Analyses Tested:	TP	Ha BT	XE. 5	OXYS	Tooms	LAAD						
Sample Containers:						50 ml Pors	POTTLE					
Purge Technique: Bailer Pump												
Sounder												
Used: Water Meter  Water & Free Product Levels												
Time Depth to Water Depth to Product Notes:												
9:	29	4.9	0			No SX	sen					
	57	Z.9				No SX	HEITM					
	;10	7,9	1			Mr 9						
		ErD										
	Total Vol			Field Meas	urements							
Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)						
12:49	0	6.02	56.16	0.118	0,32	3./						
12:57		5.95	55.65	0.113	0.39	3.7	-					
1:02	3.0	5,60	55.63	0.140	1.00	9.5						
1:08	4.5	5.68	55,53	0.113	1.58	15.0						
							W.					
				Field Scientist:	JACK	SKEAHAN	<i></i>					
							,					



Date: 4/14/06 Project Name: BO AND T 100 OFFICE Project No: 5P-23 Well Number: MW-9 Analyses TPHO, BTXE, 5-0XYS, TOTAL LEAD Tested: (3) HCL VOAS AND (1) Z50 ml POZY BOTTLE Sample Purge Bailer Technique: Interface Sounder Meter Water Meter Used: Water & Free Product Levels Depth to Water Time Depth to Product Notes: 9:31 2.78 SHEAN NO SHARN 1.21 10:00 1.19 NA SHERN 10:11 END Field Measurements Total Vol. DO/(%) Temp/(F) Cond./(ms/cm) DO/(mg/L) Time Removed/(gal) 56.77 6.1 0.127 1:18 5.96 0.63 1.8 5.93 56.27 0.144 0.93 8.9 1;23 56,39 0.165 6.27 3.6 0.74 1:27 7.1 1:30 5.4 6.28 56.90 0.138 0.82 7.9 Field Scientist: JACK SKEAHAN